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MIND, BODY, THEISM AND IMMORTALITY.

MATERIALISM, in the general sense of the origin of life and mind from a material system, is not more incompatible with Theism than is the principle of evolution. In any case Theism must conform its belief in the divine origin of the human personality to the arrival of that personality by stages. First the humblest organisms, then animals a little less humble, then animals higher in the scale, and so on through an indefinite succession till life finally ascends to man. To infer an extra and prior stage behind the humblest organism from which organic evolution started makes no appreciable extra difficulty for theistic interpretation. One sovereign added to a million makes no appreciable difference to the trouble of counting. If the creative process required so many steps between man and his first living ancestor, it could easily include a purely material ancestry for the latter. Materialism, in the simple sense that matter was the prius of mind, only adds an appendix to the scheme presented to Theism for explanation.

It is important to realize that the material origin of life and mind adds nothing appreciable to Theism's difficulties; for inspection of the cosmic span of the earth's history, so far as this inspection is possible, indicates that matter gave birth to life and, through life, to mind. The evidence points to a previous earth that could not carry living creatures. It was, to mention one point, a furnace for their destruction. Since life appeared where there was formerly only inorganic matter the evidence again indicates that, when the earth became a practicable habitat for plants and animals, the living issued from the non-living.

Professor Pringle-Pattison's assertion, in his *The Idea of God in Modern Philosophy*, that the evolution of the living from the non-living is a point of no philosophical importance, is true in so far as it implies that this materialistic appendix to the doctrine of evolution need give no extra trouble to the Theist. If God developed man from an amœba he could presumably produce the amœba from lifeless matter: if he did the one he might equally well do the other. It does seem over-emphatic to deny any philosophical importance whatever to the generation of the living from the non-living—so momentous an occurrence must have some significance. The details of divine method must bear on our interpretation of it. Professor Pringle Pattison's over-emphasis helps, however, to direct attention to the importance of avoiding certain conclusions often associated with the belief in the evolution of the living from the non-living. Materialism is usually associated with beliefs that are antitheistic because it tends to a mechanical conception of life. Materialism in the simple sense of the priority in time of matter to life and the genesis of the later from the earlier is no more incompatible with Theism than organic evolution. It can be so further construed as to make it incompatible. This is not peculiar to materialism, for Theism can be ruled out of a scheme of thought that puts mind before matter. Materialism has become a bogey term because it has usually connected itself with mechanical conceptions of life and mind. It has, for example, not merely inferred that life and mind originally proceeded from matter but has insisted that whenever they are found in action they are being constantly produced from it. We must accept the evidence to hand that life and mind originally issued from matter. It is not complete, it is true. Our knowledge and power of interpretation are both very limited, but we must go by what we have, as a man must live on his income though it be small or inadequate. Mind undoubtedly appears to have proceeded from matter, but our estimate of it must not be based upon this particular fact. Both sides of the transaction must be examined. Materialism has become a bogey word through the assumption that descent decides destiny. This is akin to the aristocratic tendency to connect a lofty genealogy with the man who becomes great. It is quite possible that we should increase our respect for matter instead of roundly declaring it to be no fit parent for mind.

The living organism and the lifeless thing appear different to the mind, as blue and red are different experiences for it. Mechanism and vitalism disagree over the significance of the difference.

As blueness and redness are two variations on a single theme of color sensation, so for the mechanist there is nothing more in the difference between the living and the non-living than a variation between two sets of purely physico-chemical processes. The vitalist believes in a difference of kind between the purely physico-chemical nature of the lifeless and the inclusion in the organism of an extra-mechanical agency. Organism = physics + chemistry = matter + energy = inorganic matter. This is the mechanist formula. The vitalist requires two formulæ: non-living = physics + chemistry, and organism = physics + chemistry + X. The vitalist is backed by immediate experience or the impression made on common sense, for the living organism seems to differ from the physico-chemical, from the purely inorganic, and to differ essentially by its *tactical* methods. Very humble animals appear to strive persistently after an end. A small amœba dodges and twists when a larger amœba pursues it. A beetle will run when prodded once and sham dead if prodded twice. Pursuit and escape, with considerable tactical accompaniment, form a considerable part of the routine of life. It has been remarked that intelligence is highly developed in animals that, like the fox, are both hunters and hunted. Tactics, suggestive of plastic and modifiable concurrence of activities on results, seem to distinguish the living from the mechanical and fixed of the non-living.

It is doubtful where animal tactics become conscious and mental, but consciousness does finally appear. Plant life, animal tactics, animal consciousness, the human mind: this series irresistibly suggests that the evolution of life involves a new activity within the cosmic process. This is the X in the vitalist formula. It ultimately declares itself most completely in mind, when it reaches its terminal development in man. In its earlier stages it can only be more vaguely described as 'life.' This conception that an extra-mechanical agency or factor or entity, more vaguely describable in its earlier phases as 'life,' more definitely recognized in the phase of animal consciousness, most completely known in its final development as the human mind, has arisen from, or out of, an original inorganic prius, seems to cover most satisfactorily the data of experience. At some cosmic point 'life' conjoins with the material. Their first conjunction is the living thing or organism—consciousness is yet in the future. The evolution of plant and animal life proceeds from the conjunction and coöperation of the physico-chemical and 'life.' Organization proceeds along the double lines, connected and independent in their mutual coöperation, of material and vital. 'Life' becomes conscious and consciousness becomes the human mind.

According to this conception the body and the mind are two mutually interacting and interdependent entities. There is no need for the further supposition that they are *substances* in the metaphysical sense of the term. An individual mind is an entity, its associate body is also an entity—just as the driver and his engine are entities, though the actual relation between mind and body is more intimate and perplexing than the relation between the engine and its driver. The dependence of the mind on the body connects naturally with its ultimate origination from the material. The action of the body on the mind and of the mind on the body, although perplexing to conceive because of their apparent disparateness, appear intelligible in the light of this origination. The apparent disparateness may not be so great as is often supposed. Spatiality does not cut absolutely clean between the mental and the bodily. The spatial severance of material bodies involves as an essential element, coexistential separation. Minds are also coexistentially separate. The thoughts of two different minds may be contemporaneous and quite apart. Coexistential separation may be carried over into 'life' and mind as the permanent representative of the space of the material world, and maintain a connecting link between mind and body. Driesch uses the terms 'entelechy' and 'psychoid' in place of 'life' and 'conscious life'—the conceptions are similar in principle though not necessarily identical in detail.

He conceives the vital agent as non-spatial, as outside space but acting into it. The interaction between the spatial and the non-spatial is one of the standing puzzles of thought. It has led to attempt after attempt to so conceive mind and body as to evade their recognition as separate, though not necessarily separated, entities. They are two aspects of the same thing; they correspond to two different mental attitudes; the body is a phenomenon that attends consciousness as a shadow attends the opaque body. These and other conceptions endeavor to evade the conclusion, defended in recent thought by McDougall, that body and mind are two separate entities. Space seems to cut the mind, regarded as an entity, so completely off from the body. If the space of the material world includes the two elements of extension and coexistential separation, the mind, by retaining the latter though rejecting the former, maintains its connection with the matter from which it originated.

This connection originating in the generation of mind from body, is maintained as the basis of a copartnery. This notion of a copartnery between two interacting entities seems to provide a convenient method of conceiving the relations between body and mind. The two partners depend upon one another: the body provides sense-organs for conveying impressions received by the mind as sensations; the mind interprets and decides, it guides movements through the motor apparatus supplied in the physiological mechanism. This is probably the primary office of the mind—to realize situations for the body and conduct it to food or safety. Consciousness was probably in the first instance little more than a useful appendix to the body. Possibly it began as little more than a feeling of pain or of satisfaction to whip the organism into activity or encourage it to persist in useful efforts, such as eating. Through our own action under fear or anger or love we may perhaps catch a glimpse of the first stirrings of life into consciousness—stirrings that may be compared to an emotional drive on the living being. As mind developed from its first conscious beginnings it acquired more the status of a junior partner—dealing with situations that affected itself, but in which the body had a predominant interest. This junior partnership continued well on into the human era. "The human mind," writes Professor Whitehead, "was not evolved in the bygone ages for the sake of reasoning, but merely to enable mankind with more art to hunt between meals for fresh food supplies."

But the mind has not remained tied in servitude to bodily demands, any more than in originating from the material it merely repeated the chemical and physical characteristics of its parentage. The difficulty in accepting the cosmic evidence that life and mind proceeded from matter resides mainly in the apparently startling break with the *cosmic heredity.* Something has sprung from matter and energy that they seem incompetent to produce. It is difficult to persuade ourselves that we are no final judges of cosmic competency and accept the evidence that life proceeded like a new creation from the broad bosom of the material world. Hylozoistic theories attempt to evade this conclusion. Mendelism suggests a possible explanation of the apparent origination from matter of life and mind. Matter may contain the vital principle repressed within it as the recessive hereditary quality is repressed by the dominant. As a succession of births may sort out the recessive Mendelian factor and permit expression to it, so during the material process the vital principle may be liberated to pursue its own course, not independently of matter but developing according to its own nature. This resolution of the production of life from matter into escape from enclosure within it, may or may not make the term 'materialism' a misnomer. Neither materialism nor hylozoism can give a final decision adverse to Theism. In any case, life and mind sprang out of matter, remained connected with it, continue to depend upon it (matter in its turn depending on them) but develop in accordance with their own principles and nature. In developed man mind becomes the senior member of the copartnery. Social intercourse, love and a whole range of emotions, beauty, truth, morality, religion become the dominating interests. Matter is now seen clearly in the position of a mother bearing a child of genius who will far surpass her in achievement.

This brief outline seems to sketch in the general relation between mind and body that most satisfactorily expresses the data of experience. The whole evolution of life is a progression from inferior grades of existence to superior. This progression appears as an impulse originating in the creative process by which life sprang from the lifeless. The living organism, typified still in the plant, was the first result of the coöperation between the two agencies that now divide the cosmic process between them. Life, breaking by its creative nature with the causal routine of the material, moved upwards into consciousness and from animal consciousness into the human mind. It derived benefit from the physico-chemical agencies from which it sprang and with which it remained connected. Doubtless the marvellous organization of the human body was based fundamentally on constant physical and chemical factors but assisted by the creative and organizing capacity of life and consciousness. Ultimately the human mind became the supreme entity, though still coöperating with the body and remaining dependent on it, though also independent. Such a sketch simply attempts to conceive the nature of the evolutionary process presented to Theism for explanation. It does not decide against its power to give that explanation.

It is natural that mind and body should share some methods of procedure. There are various characteristic methods readily perceptible in the organism. Hydrolysis is one such method. The chemical processes in all living matter consist very largely of hydrolytic decompositions. In hydrolysis chemical molecules are divided into others by the entrance of a molecule of water. Two new molecules are formed by the fission of an old one and the addition to the divided parts of atoms from the entering molecule of water. The body converts starch into sugar by a series of hydrolytic decompositions. Hydrolysis occurs so frequently in the chemical processes of the body that it can be reasonably regarded as a standard chemical procedure adopted by the organism. Hydrolytic processes are familiar to the chemist, and they can be frequently induced or facilitated by small quantities of some substance that often remains unchanged at the end of the hydrolytic decomposition. Such substances are known as catalysts and the whole process as catalysis. The organism provides special catalysts for many of its hydrolyses in the form of complex organic compounds known as enzymes.

Enzyme action, often closely associated with hydrolysis, is another characteristic method of procedure in the organism. Hydrolysis and enzyme action are characteristic of the living thing in its physico-chemical aspect. There is another method of procedure in which both material and psychical more obviously participate.

When men prepare machinery that can be touched off into appropriate action, as when a bell is rung by pulling a switch, they use a method that is almost the very soul of the procedure of the organism. The type of process in which an action already prepared in a mechanism set to a stimulus—like a gun set to fire by a touch on the trigger—is touched off by some cause slight in comparison with the total action, exhibits a standard psychophysical method. The body is full of reflex actions. A dog's hind leg scratches his flank if it be rubbed at the right place. Snuff in the nostril produces a sneeze, the eyes wink when a body moves near them. The nervous system is largely a series of touch-off systems in which a relatively slight stimulus applied to a nerve or nerves may move a limb through the associated mechanism of bone and muscle, or cause movement of the whole body. In many reflex or virtually automatic actions, such as the playing of a pianist who is concentrating his attention on a conversation remote from his music, the psychical mingles with the mechanical. It seems clear that some bodily automatisms are set to a psychical stimulus. The pain of a pin-prick makes us jump. The wink of the eye seems to be due, in part at any rate, to the *perception* that something is approaching. If it be true that a sleep-walker does not wink when a candle is waved before his open eyes, it seems confirmed that a psychical stimulus initiates this particular reflex. Mechanical and apparently determined response is not necessarily indicative of the purely physico-chemical. Men endeavor to supply themselves with machines that will complete a whole series of processes in a perfectly automatic manner. This is a development of the practice of the organism. It is possible that when the sea-urchin points its spines to a passing shadow its reaction responds to a conscious impression. The shadow may be cast by an enemy and the sea-urchin may have set a mechanism of defence to respond to a sign of possible danger. Instincts in their most absolute forms, as among the insects, are probably complex series of bodily mechanisms set to psychical stimuli. The hunting wasp who seizes the caterpillar, stings it at the exact spot and in the exact way to produce paralysis without death, places it in her nest and lays her eggs on it in the best position for the newly born grubs to attack their living host, can hardly be supposed to act through foresight, for she dies before her grubs are born, and has acted in a systematic, provident way without previous experience of their requirements or of the methods of paralyzing a caterpillar. Her performances can hardly be purely mechanical throughout—mechanical arrangements set to purely mechanical stimuli. Her movements will be different in detail in stinging each caterpillar that she stores for her young. Conscious appreciation of situations must be supposed to be present. Some conception of the operation of instinct can be formed by supposing that within her body certain physico-chemical mechanisms are 'set' to certain psychic stimuli. Her instinctive behavior is a series of actions resulting from such settings to the psychical stimuli constantly arising in the course of her acting. There is, there must be, some pliability in her conduct—she must adapt to the detail of contingencies. Part of this pliability may transcend explanation in terms of physico-chemical mechanisms set to psychical stimuli, part may be explicable in terms of alternative settings to possible stimuli. We can conceive an absolutely pure instinct in which a succession of purely physico-chemical or mechanical settings are touched off by successive psychical stimuli. Few, if any, instincts may be 'pure' in this absolute sense, but it seems clear that the psychical may coöperate with the physico-chemical by acting as stimulus to its mechanical setting.

The converse action also occurs in the interaction between the body and the mental. Within the mind ideas tend to associate into organized groups, comparable with the physico-chemical settings of the body. The laws of the Association of Ideas express the mental tendencies to organize such psychical settings. Odors are well known to form very fixed associations. The smell of a particular flower, for example, may become almost permanently associated with some particular events. The smell at once rouses a definite set of memories and flashes past scenes upon the mind. The memories are 'set' to respond to the stimulus of the odor. Since the odor depends ultimately on physical or chemical action on the organs of smell, a bodily stimulus initiates a psychical reaction. In all perception there seems to be the response of a psychical 'setting' to physico-chemical stimuli. The memories of past experience are so organized that when impressions from the external object are received through the sensory apparatus the mind apprehends the object and realizes the meaning of the stimuli applied to it. The sensations received from an object stimulate a mass of memories and ideas so organized that the mind interprets them as a bird flying or as a mass of rock. Perception is marvellously plastic. This plasticity may partly transcend the conception of psychical settings to material stimuli, it may derive in part from a richness of alternative and compounded settings to very varied stimuli. The illusions of perception often reveal the existence of this 'mechanical' element within the psyche. A wanderer in the dark is filled with fear and his ideas become 'set' to flash the perception of a ghost upon his mind. A dimly seen white sheet touches off this setting into an illusory ghost.

This conception of interaction between mental and bodily in terms of stimulus-applied-to-setting may be compared with Descartes's notion that the pineal gland was the point of conjunction between mind and body. The difficulty of conceiving the interaction between such different entities was minimized by supposing it to occur only at one particularly appropriate point. The notion that the mental and the bodily act as stimuli to one another, in a similar way, minimizes the amount of interaction between them. Bergson speaks of the psychical reaction overflowing the cerebral state, connected with it as a coat is connected with the peg on which it hangs. If the cerebral motion, the terminal point of the physico-chemical stimulus, acts on the mind as the pull of a lever sets off an engine, the mental reaction does do much more than merely present a psychosis parallel and correspondent to the neurosis. The conception of a perfect parallelism between brain processes and mind processes ultimately leads to the opinion that they cannot act upon one another. The recognition that one characteristic procedure of the psychophysical individual is the setting of a system to a stimulus provides an intelligible way of conceiving the interaction between mind and body.

This conception does not exhaust the nature of consciousness, but it suggests considerations that may bear on the destiny, the immortality, of the human psyche. The birth of mind from matter does not decide against a final theistic interpretation or make it less possible. Does the close connection between mind and body originating in this birth decide against man's immortality or make it less probable? The body certainly dies. If the connection is a permanent tie the mind seems doomed to die with it. The continual dependence of the mind on the body during physical life does not necessarily imply that it cannot continue to exist when there is no body to depend on. The child may depend very greatly on his parents during their life, he may continue to depend on their support when he is older, without being unable to live on when they are dead. He can continue to live because he is just as truly an independent existence as a dependent on them. This independency of nature grows with his years. As an infant he must be suckled or fed and cared for, as a man he *can* care for himself even though he continues to depend upon his parents. A similar growth of independency appears to occur in the mind. The effect of sensory stimuli depends more and more on the mind itself than on the material, and perhaps on the bodily agencies. The primrose by the river's brim is less than a primrose to the confused perception of the very young child, little more when he is older; it may be the suggestion of thoughts and speculations to the mature mind that can hardly be perceived to be related at all to the original perception of the flower. The mental contributions steadily and progressively overshadow the contributions conveyed through bodily stimuli. Imagination can dispense with information from the actual world more and more as the mind grows and develops. It is not possible to attain certainty through science or philosophy regarding the ultimate or actual relation between body and mind. It may be that the mind is ever tied to its brain processes, however wide the sweep of its imagination and however relatively insignificant its actual physical impressions received from the external world may appear to be. But it is quite possible that it is not fixed firmly to the body as its indispensable base. There are suggestions in its ever-widening sweep that it can use the body as a base for achievements that can make it ultimately independent of it. There seems to be a steady shift of the center of dominance. The infant is the creature of its appetites, the conceptions of the mind grow, or grow in the normal development, into superiority and supremacy. The young child, like the humbler animals, no doubt regards the world as a place to feed and sleep in. For the mature mind the world of sense tends to disappear in a universe of beauty, truth and goodness. The mind required matter for its prius, it required the body for partnership in its process of development, but it is possible that when that partnership has played its part and been dissolved it may be free to follow its own life.

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